

## Safety Data Sheet - GHS

### 1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

**PRODUCT NAME:** Kyber™  
**EPA REGISTRATION NUMBER:** 59639-236  
**VC NUMBER(S):** 2030, 2096 (and other similar formulations)  
**SYNONYM(S):** V-10448 2.64 SC Herbicide  
**PRODUCT DESCRIPTION:** Herbicide

Kyber™ is a trademark of Dow AgroSciences, DuPont or Pioneer and their affiliated companies or respective owners

**PRODUCED FOR:**  
 Dow AgroSciences LLC  
 9330 Zionsville Road  
 Indianapolis, IN 46268

**EMERGENCY TELEPHONE NUMBERS**  
 HEALTH EMERGENCY OR SPILL (24 hr):  
 (800) 992-5994  
 TRANSPORTATION (24 hr.): CHEMTREC  
 (800) 424-9300 or (202) 483-7616

**PRODUCT INFORMATION**  
 AGRICULTURAL PRODUCTS: (800) 682-5368

### 2. HAZARDS IDENTIFICATION

**Classification** - (per U.S. OSHA 29 CFR 1910.1200 (Hazcom 2012))

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Reproductive toxicity	Category 2

#### Label elements

Signal Word

**WARNING**



#### Hazard statements

Harmful if swallowed  
 Harmful if inhaled  
 Suspected of damaging fertility or the unborn child

**Precautionary statements****Prevention**

Obtain, retain and follow all safety instructions before use  
 Wear protective gloves/protective clothing/eye protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area

**Response**

IF EXPOSED OR CONCERNED: Get medical advice/attention  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 IF SWALLOWED: Get medical help. Rinse mouth.

**Storage**

None

**Disposal**

Dispose of contents/container in accordance with local/regional/national regulations

**Hazards not otherwise classified (HNOC)**

Very toxic to aquatic life with long lasting effects.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%	TRADE SECRET
Flumioxazin	103361-09-7	5.29	
Pyroxasulfone	447399-55-5	6.76	
Metribuzin	21087-64-9	15.86	
Propylene glycol	57-55-6	4 - 5	*
Other ingredients	Various CAS#s	67 - 68	*

\* The chemical name, CAS number and/or exact percentage have been withheld as a trade secret

Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling **(800) 992-5994** at any time.

### 4. FIRST AID MEASURES

**EMERGENCY NUMBER (800) 992-5994****EYE CONTACT:**

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**SKIN CONTACT:**

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**INGESTION:**

Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by the poison control center or doctor. Do not give anything to an unconscious person.

**INHALATION:**

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**NOTES TO PHYSICIAN:**

Treat symptomatically and supportively

**5. FIRE FIGHTING MEASURES**

<b>Flash point °C</b>	Not Determined
<b>Flash point °F</b>	Not Determined
<b>AUTOIGNITION:</b>	Not Determined
<b>EXTINGUISHING MEDIA:</b>	Dry chemical powder, carbon dioxide, water spray Do NOT use water jet or straight streams

**FIRE FIGHTING INSTRUCTIONS:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear. Prevent extinguishing media run off from entering drains, sewers, and bodies of water.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Keep people away. Isolate fire area and deny unnecessary entry.

**6. ACCIDENTAL RELEASE MEASURES**

**DOW AGROSCIENCES EMERGENCY PHONE NUMBER: (800) 992-5994**

**CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300**

**CONTAINMENT:** Avoid runoff into storm sewers and ditches which lead to waterways. Contain spilled liquids with dry sorbents. Keep well ventilated. Wear proper personal protective equipment.

**CLEANUP:** Clean up spill immediately. Absorb spill with inert material (such as dry sand or earth), then place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container. Prevent wash water from entering surface water or drains. Wear proper personal protective equipment.

**7. HANDLING AND STORAGE****HANDLING:**

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**STORAGE:**

Keep in original container. Store in cool, dry, secure place. Do not put formulation or dilute spray solution into food or drink containers. Do not contaminate water, food or feed by storage or disposal. Do not store or transport near food or feed. Not for use or storage in or around the home.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**EYES & FACE:** Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

**RESPIRATORY PROTECTION:** Not usually required. Use this material in a well ventilated area. If necessary, use a NIOSH approved air purifying respirator with a dust-mist filter / organic vapor cartridge combination.

**SKIN & HAND PROTECTION:** Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks and chemical-resistant gloves made of any waterproof material.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENGINEERING CONTROLS:** When handlers use closed systems in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides[40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### EXPOSURE LIMITS

Chemical name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Flumioxazin	None	None	None
Pyroxasulfone	None	None	None
Metribuzin	TWA: 5 mg/m <sup>3</sup>	(vacated) TWA: 5 mg/m <sup>3</sup>	None
Propylene glycol	None	None	None
Other ingredients	Inhalable particles: 10 mg/m <sup>3</sup> Respirable particles: 3 mg/m <sup>3</sup>	None	None

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>		<b>Vapor pressure</b>	Not determined
<b>Physical State</b>	Liquid	<b>Vapor density</b>	Not determined
<b>Color</b>	Opaque off-white	<b>Specific Gravity</b>	Not determined
<b>Odor</b>	Moderately strong	<b>Water solubility</b>	Miscible in water
<b>pH</b>	6-8 @ 25°C (1% dilution)	<b>Solubility in other solvents</b>	Not determined
<b>Melting point / freezing point</b>	Not determined	<b>Partition coefficient</b>	Not determined
<b>Boiling point / boiling range</b>	Not determined	<b>Autoignition temperature</b>	Not determined
<b>Flash point</b>	Not determined	<b>Decomposition temperature</b>	Not determined
<b>Evaporation rate</b>	Not determined	<b>Viscosity</b>	34.7 cP @ 20° C 19.4 cP @ 40° C
<b>Flammability (solid, gas)</b>	Not determined	<b>Explosive properties</b>	Not determined
<b>Flammability Limits in Air:</b>		<b>Oxidizing properties</b>	Not determined
<b>Upper flammability limits</b>	Not determined	<b>Liquid Density</b>	1.12 - 1.13 g/mL
<b>Lower flammability limits</b>	Not determined	<b>Bulk density</b>	Not determined

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Hazardous polymerization

No information available.

### Conditions to avoid

Extremes of temperature and direct sunlight.

### Incompatible materials

None known based on information supplied.

### Hazardous Decomposition Products

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY:

The following information is for this product formulation unless noted differently.

Oral Toxicity LD <sub>50</sub> (rats)	1,750 mg/kg	EPA Tox Category	III
Dermal Toxicity LD <sub>50</sub> (rats)	> 5,000 mg/kg	EPA Tox Category	IV
Inhalation Toxicity LC <sub>50</sub> (rats)	> 2.15 mg/L (4 h)	EPA Tox Category	IV
Eye Irritation (rabbits)	Minimally irritating	EPA Tox Category	IV
Skin Irritation (rabbits)	Slightly irritating	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

### CARCINOGEN CLASSIFICATION

Chemical name	IARC Group 1 or 2	OSHA - Select Carcinogens	NTP Carcinogen List
None			

### TOXICITY OF FLUMIOXAZIN TECHNICAL:

**SUBCHRONIC:** The lowest no-observable-effect-level (NOEL) in subchronic studies was 30 ppm in the three-month toxicity study in rats.

**CHRONIC/CARCINOGENICITY:** In a one year dog feeding study NOEL is 10 mg/kg/day. Dietary administration of Flumioxazin Technical for 18 months there was no evidence of any treatment-related oncogenic effect. The NOEL for this study is 300 ppm. Dietary administration of Flumioxazin Technical for 24 months, no evidence of an oncogenic effect was observed. The NOEL for this study is 50 ppm.

**DEVELOPMENTAL TOXICITY:** Flumioxazin Technical produces developmental toxicity in rats in the absence of maternal toxicity at doses of 30 mg/kg/day by the oral route and 300 mg/kg/day by the dermal route. No developmental toxicity was noted in rabbits at doses up to 3000 mg/kg/day, a dose well above the maternal NOEL of 1000 mg/kg/day.

Mechanistic studies indicate that the effects seen in the rat are highly unlikely to occur in the human and that flumioxazin would not be a developmental toxicant in the human.

**REPRODUCTION:** Reproductive toxicity was observed in F1 males, P1 females and F1 females at 300 ppm Flumioxazin Technical, the highest dose tested and a dose that also produced signs of systemic toxicity. Toxicity was also observed in the F1 and F2 offspring at doses of 200 ppm and greater.

**MUTAGENICITY:** Flumioxazin Technical does not present a genetic hazard.

#### **TOXICITY OF PYROXASULFONE TECHNICAL:**

**SUBCHRONIC:** The NOAEL in rats was 50 ppm. No neurotoxicity was observed at acute doses to rats as high as 2000 mg/kg.

**CHRONIC/CARCINOGENICITY:** Pyroxasulfone was not carcinogenic in lifetime feeding studies in mice. Pyroxasulfone produced an increased incidence of urinary bladder transitional cell papillomas in male rats in a two-year carcinogenicity study. The tumors seen with Pyroxasulfone were caused through a non-genotoxic mechanism, which is not relevant at low doses.

**REPRODUCTION:** Pyroxasulfone did not produce effects on fertility or the embryo at the dosage of which general toxicity to parental animals was observed.

**MUTAGENICITY:** Pyroxasulfone is not mutagenic according to results for an *in vitro* reverse mutation test, chromosomal aberration test and *in vivo* mouse bone marrow micronucleus test.

#### **TOXICITY OF TOXICITY OF METRIBUZIN TECHNICAL:**

**CHRONIC/CARCINOGENICITY:** Chronic Toxicity – Metribuzin: Dogs were administered metribuzin for 2 the NOEL was 100 ppm. In 2 year dietary study with rats the systemic NOEL was 30 ppm. Carcinogenicity. Metribuzin carcinogenicity –There was no evidence of carcinogenic potential observed.

**DEVELOPMENTAL TOXICITY:** Metribuzin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Metribuzin are related to maternal toxicity.

**REPRODUCTION:** Metribuzin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Metribuzin is related to parental toxicity.

**MUTAGENICITY:** Metribuzin was not mutagenic or genotoxic based on the overall weight of evidence in a battery of *in vitro* and *in vivo* tests.

## **12. ECOLOGICAL INFORMATION**

#### **AVIAN TOXICITY:**

Based upon EPA designation, Flumioxazin Technical is practically non-toxic to avian species. The following results were obtained from studies with Flumioxazin Technical:

Oral LD<sub>50</sub> bobwhite quail: greater than 2,250 ppm  
Dietary LC<sub>50</sub> bobwhite quail: greater than 5,620 ppm  
Dietary LC<sub>50</sub> mallard duck: greater than 5,620 ppm.

Flumioxazin Technical in the diet. In mallard ducks, a slight, but not statistically significant reduction in hatchlings and 14-day old survivors was observed. Based on a possible, slight effect on egg production at 500 ppm, the NOEL for this study was 250 ppm.

The following results were obtained from studies with Pyroxasulfone Technical:

LD<sub>50</sub> bobwhite quail: greater than 2250 mg/kg

**AQUATIC ORGANISM TOXICITY:** Based upon EPA designation, Flumioxazin Technical is slightly to moderately toxic to freshwater fish; moderately toxic to freshwater invertebrates; moderately toxic to estuarine/marine fish and moderately to highly toxic to estuarine/marine invertebrates, based on the following tests:

96-hour LC<sub>50</sub> rainbow trout: 2.3 mg/L  
 96-hour LC<sub>50</sub> bluegill sunfish: greater than 21 mg/L  
 48-hour LC<sub>50</sub> Daphnia magna: greater than 5.5 mg/L  
 96-hour LC<sub>50</sub> sheepshead minnow: greater than 4.7 mg/L  
 96-hour (shell deposition) EC<sub>50</sub> eastern oyster: 2.8 mg/L  
 96-hour LC<sub>50</sub> mysid shrimp: 0.23 mg/L  
 Fish early life-stage (rainbow trout): NOEC >7.7 µg/L, <16 µg/L  
 Chronic toxicity (mysid shrimp): NOEC >15 µg/L, <27 µg/L  
 Chronic toxicity (Daphnia magna): NOEC >52 µg/L, <99 µg/L.

Pyroxasulfone Technical is very toxic to aquatic organisms; special attention should be given to aquatic plants. Based upon EPA designation, the following test results are based on Pyroxasulfone Technical:

96-hour LC<sub>50</sub> rainbow trout: greater than 2.2 mg/L  
 96-hour LC<sub>50</sub> bluegill: greater than 2.8 mg/L  
 48-hour LC<sub>50</sub> Daphnia magna: greater than 4.4 mg/L  
 96-hour LC<sub>50</sub> sheepshead minnow: greater than 3.3 mg/L  
 96-hour EC<sub>50</sub> algae = 0.00038 mg/L  
 7-day EC<sub>50</sub> Spirodela polyrhiza = 0.0055 mg/L  
 14-day LC<sub>50</sub> Earthworm = 997 mg/kg

**OTHER NON-TARGET ORGANISM TOXICITY:**

Flumioxazin Technical is practically non-toxic to bees. The acute contact LC<sub>50</sub> in bees was greater than 105 µg/bee.  
 Pyroxasulfone Technical is practically non-toxic to bees. The acute contact (48-hour) LD<sub>50</sub> in bees was greater than 100 µg/bee.

**OTHER ENVIRONMENTAL INFORMATION:**

This product is toxic to non-target plants and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below mean high water mark. Do not apply where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

### 13. DISPOSAL CONSIDERATIONS

Check government regulations and local authorities for approved disposal of this material. Dispose of in accordance with applicable laws and regulations.

### 14. TRANSPORTATION INFORMATION

**DOT (ground) SHIPPING NAME:** Not regulated for domestic ground transport by U.S. DOT

**ICAO/IATA SHIPPING NAME:** UN3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Flumioxazin, Metribuzin), 9, III, Marine Pollutant

**REMARKS:**

- Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IATA Special Provision A197
- For US shipping, Emergency Response Guidebook No. 171

**IMDG SHIPPING NAME:** UN3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Flumioxazin, Metribuzin), 9, III, Marine Pollutant

**REMARKS:**

- Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IMDG 2.10.2.7
- For US shipping, Emergency Response Guidebook No. 171

## 15. REGULATORY INFORMATION

### EPA-FIFRA LABEL INFORMATION

Pesticide products in the U.S. are registered by the EPA under FIFRA and are subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required by OSHA GHS for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the FIFRA pesticide label:

### EPA FIFRA SIGNAL WORD: CAUTION

- *Harmful if swallowed*
- *Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.*
- *Remove contaminated clothing and wash before re-use.*
- *Keep out of reach of children.*

**PESTICIDE REGULATIONS:** All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

**U.S. FEDERAL REGULATIONS:** Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

#### Metribuzin

SARA 313 Chemicals                      1.0% de minimis concentration

#### SARA (311, 312):

Immediate Health:	Yes
Chronic Health:	No
Fire:	No
Sudden Pressure:	No
Reactivity:	No

**STATE REGULATIONS:** Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

#### Metribuzin

MA Right To Know	Present
NJ Right To Know	1302
PA Right To Know	Present
MN Hazardous Substance	Present

#### Propylene glycol

NJ Right To Know	3595
PA Right To Know	Present
RI Right To Know	Listed

Emergency Telephone: (800) 992-5994  
 REVISION NUMBER: 2

SDS NO.: 0560  
 REVISION DATE: 10/26/2020



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MN Hazardous Substance Present

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

## 16. OTHER INFORMATION

**REASON FOR ISSUE:** General Update for distribution  
**SDS NO.:** 0556  
**EPA REGISTRATION NUMBER:** 59639-236  
**REVISION NUMBER:** 2  
**REVISION DATE:** 10/26/2020  
**SUPERCEDES DATE:** 08/07/2020  
**RESPONSIBLE PERSON(S):** Dow AgroSciences LLC

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The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Dow AgroSciences LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Dow AgroSciences LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Dow AgroSciences LLC to confirm that you have the most current product label and SDS.

This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom").

The product label provides information specifically for product use in the ordinary course. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label.

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